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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,976	09/11/2003	Erici L. Barsness	ROC920030207US1	5040
46797 7590 04/10/2007 IBM CORPORATION, INTELLECTUAL PROPERTY LAW DEPT 917, BLDG. 006-1 3605 HIGHWAY 52 NORTH ROCHESTER, MN 55901-7829			EXAMINER JABR, FADEY S	
			ART UNIT 3628	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/10/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/659,976	Applicant(s) BARSNESS ET AL.	
	Examiner Fadey S. Jabr	Art Unit 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims **6, 8, 12, 14, 16, 22, and 24** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims disclose a minimum acceptable time, and response and processing time, however, the disclosure does not describe the limitations in a manner that would allow one of ordinary skill to completely comprehend the applicant's claim limitations.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims **10, 18, 21 and 23** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per **Claims 18, 21 and 23**, the recitation "A computerized environment" is vague and indefinite. It is unclear to the Office the meaning of a computerized environment. Further, the recitation also calls to attention the statutory class of the invention. It is unclear to the Office

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which statutory class the invention belongs seeing as a grid computing resource is seen as hardware, while the further recited limitations appear to be software. Appropriate correction is required in the indicated claims and any subsequent claims.

As per **Claims 10 and 23**, the recitation "if so" is vague and indefinite. It is unclear to the Office what the result would be if the total elapsed time were not less than the maximum acceptable time. Appropriate correction is required in the indicated claims and any subsequent claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims **1-5, 8-13, 16-21, 23, 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Abrams et al., Pub. No. US2002/0166117 A1 in view of Steele et al., Pub. No. US2004/0174823 A1, hereinafter referred to as Abrams and Steele, respectively.

As per **Claims 1, 10 and 13**, Abrams discloses a method for providing pay-per-use distributed computing resources, comprising:

- receiving a request from a requesting entity (0019);

- performing the request using the grid computing resources; wherein performing the request comprises producing results responsive to the request (0019).

Abrams fails to *explicitly* disclose if an amount of time needed to perform the request is less than the maximum acceptable time to complete the request defined by the completion time criterion delaying returning the results to the requesting entity for a period of time; after a lapse of the period of time, returning the results to the requesting entity. However, Abrams discloses that prioritization of one application instance over another (based on distribution and prioritization specified by the system provider and the application providers) (0112-0113). Abrams therefore delays returning application instances to users if another instance has a higher prioritization than the previous instance. The delayed instance with the lower prioritization is then sent to the user after a period of time. A user's SLA stipulates the execution policy that allows the application provider (e.g. user) to limit and determine the potential cost spent by the application provider in utilizing the on-demand network (0125). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include providing application instances with a higher prioritization while delaying lower prioritization instances, because it provides the users with the ability to control costs of using the network, while allowing higher priority application instances to be returned first.

Abrams fails to disclose determining a completion time criterion specified for the request, wherein the completion time criterion defines at least a maximum acceptable time to complete the request; and determining a time-based price to be charged for performing the request. However, Abrams discloses using different pricing schemes which reflect the economic value or providing service (0106). Furthermore, Steele teaches tier priced SLAs that specify a period of

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time that the response must be returned with a higher (e.g. gold-level) charge for having the response in a shorter time (0.5 ms) (0013, 0024, 0029, also see Figure 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include charging a user based on the amount of time the user requires for execution of their application as taught by Steele, because shorter response times requires more resources to be utilized than longer response times that do not require as many resources.

As per Claim 2, Abrams discloses charging a price for performing the request (0054).

As per Claim 3, Abrams discloses prior to performing the request, allocating resources from the grid computing resources to perform the request (0019).

As per Claim 4, Abrams fails to *explicitly* disclose determining availability of a sufficient portion of the grid computing resources to perform the request; and if the sufficient portion is unavailable, waiting until the sufficient portion becomes available. However, Abrams discloses if the system is not at capacity and below a first threshold, the system will activate another instance of a desired application to allow entities to continue to access the application without exceeded the threshold (0104). Abrams therefore accesses further resources to complete a request when resources are unavailable. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include waiting until a sufficient portion of the resources are available before performing the

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request, because it allows the user to control the amount they will be charged by providing threshold values on the amount of resources utilized for the request.

As per Claim 5, Abrams discloses producing results responsive to the request (0019). Abrams fails to disclose wherein determining the amount of time needed to perform the request comprises determining an amount of time needed to return the results to the requesting entity. However, Steele teaches SLAs which select measuring availability and response time (0029). Further, Steele teaches SLAs that specify the response time that the request must be completed in (0013). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include measuring response time as taught by Steele, because it allows the system and/or user to determine whether the system is performing under the guidelines of the SLA.

As per Claims 8, 9, 16 and 17, Abrams fails to disclose wherein determining the price to be charged comprises accessing a tiered pricing schedule from which the price is determined based on response time, wherein the tiered pricing schedule specifies a decreasing price to be charged for the request with an increasing response time. However, Abrams discloses using different pricing schemes which reflect the economic value or providing service (0106). Furthermore, Steele teaches tier priced SLAs that specify a period of time that the response must be returned with a higher (e.g. gold-level) charge for having the response in a shorter time (0.5 ms). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include charging a user based on the

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amount of time the user requires for execution of their application as taught by Steele, because shorter response times requires more resources to be utilized than longer response times that do not require as many resources.

As per **Claim 11 and 25**, Abrams discloses wherein determining the time-based price to be charged for performing the request is based on a span of time calculated from receiving the request to returning the results (0104).

As per **Claim 12 and 24**, Abrams fails to wherein the completion time criterion defines a minimum acceptable time to complete the request, and wherein delaying returning the results is done only if the amount of time needed to perform the request is greater than the minimum acceptable time and less than the maximum acceptable time. However, Abrams discloses that prioritization of one application instance over another (based on distribution and prioritization specified by the system provider and the application providers).(0112-0113). Abrams therefore delays returning application instances to users if another instance has a higher prioritization than the previous instance. The delayed instance with the lower prioritization is then sent to the user after a period of time. A user's SLA stipulates the execution policy that allows the application provider (e.g. user) to limit and determine the potential cost spent by the application provider in utilizing the on-demand network (0125). Furthermore, Steele teaches a response time range, wherein a response time (e.g. between 2ms and 10ms) is specified (Figure 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include a response time range with a minimum and maximum

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response time as taught by Steele, because it allows users to control their costs by specifying shorter response times that require more resources to be utilized than longer response times that do not require as many resources.

As per **Claims 18, 19, 21 and 23**, discloses a system for providing pay-per-use distributed computing resources, comprising:

- grid computing resources (0019);
- a request manager (0022);
- receiving a request for results (0019);
- route the request to an appropriate resource of the grid computing resources to perform the request (0019).

Abrams fails to *explicitly* disclose *determine whether the total elapsed time is less than the maximum acceptable time to complete the request defined by the completion time criterion, if so, delay returning the results to the requesting entity for a period of time*. However, Abrams discloses determining whether the response time for an application exceeds limits, where the limits are response time limits (0104). Moreover, Abrams discloses that prioritization of one application instance over another (based on distribution and prioritization specified by the system provider and the application providers) (0112-0113). Abrams therefore delays returning application instances to users if another instance has a higher prioritization than the previous instance. The delayed instance with the lower prioritization is then sent to the user after a period of time. A user's SLA stipulates the execution policy that allows the application provider (e.g. user) to limit and determine the potential cost spent by the application provider in utilizing the

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on-demand network (0125). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include providing application instances with a higher prioritization while delaying lower prioritization instances, because it provides the users with the ability to control costs of using the network, while allowing higher priority application instances to be returned first.

Abrams fails to disclose *determining a completion time criterion specified for the request, wherein the completion time criterion defines at least a maximum acceptable time to complete the request; and upon completion of the request by the appropriate resource, determine a total elapsed time since receiving the request; and determining a price to be charged for processing the request based on an amount of time needed to process the request and return the results after the delay.* However, Abrams discloses using different pricing schemes which reflect the economic value of providing service (0106). Furthermore, Steele teaches tier priced SLAs that specify a period of time that the response must be returned with a higher (e.g. gold-level) charge for having the response in a shorter time (0.5 ms) (0013, 0024, 0029, also see Figure 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include charging a user based on the amount of time the user requires for execution of their application as taught by Steele, because shorter response times requires more resources to be utilized than longer response times that do not require as many resources.

As per **Claim 20**, Abrams fails to disclose a database containing at least one tiered pricing schedule defining different prices to be charged for processing requests based on time

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and wherein the request manager is configured to access the at least one tier pricing schedule to determine the prices for processing the request. However, Steele teaches a model/analysis system where a user can select a valid SLA-level and generate SLA descriptor. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the system of Abrams and include storing the SLA in a SLA model system as taught by Steele, because it provides the user with an easy to use system in creating their SLA.

7. Claims **6-7, 14, 15, 22 and 26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Abrams et al., Pub. No. US2002/0166117 A1 in view of Steele et al., Pub. No. US2004/0174823 A1 as applied to claims 1 and 10 above, and further in view of Galindo-Legaria et al., Pub. No. 2006/0020573 A1, hereinafter referred to as Galindo-Legaria.

As per **Claims 6-7, 14, 15, 22 and 26**, Abrams fails to disclose wherein determining the price to be charged comprises accessing a tiered pricing schedule from which the price is determined based on request processing time, wherein the tiered pricing schedule specifies a decreasing price to be charged for the request with an increasing processing time. However, Abrams discloses using different pricing schemes which reflect the economic value or providing service (0106). Moreover, Galindo-Legaria teaches cost is normally expressed in arbitrary units representing computer time and resources required to carry out all the operations of an execution plan (0002). Galindo-Legaria also teaches determining the cost of execution plans in terms of processing time and resources (0028). Furthermore, Steele teaches tier priced SLAs that specify a period of time that the response must be returned with a higher (e.g. gold-level) charge for

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having the response in a shorter time (0.5 ms). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include charging a user based on the amount of time the user requires for processing of their application as taught by Steele and Galindo-Legaria, because shorter response and processing times requires more resources to be utilized than longer response times and processing time that do not require as many resources.

As per Claim 27-28, Abrams fails to disclose wherein determining the wherein the tiered pricing schedule specifies a decreasing price with an increasing response time, and wherein the tiered pricing schedule is an element of a customer service contract. However, Abrams discloses SLAs that specify response time (0064). Further, Abrams discloses using different pricing schemes which reflect the economic value or providing service (0106). Furthermore, Steele teaches tier priced SLAs that specify a period of time that the response must be returned with a higher (e.g. gold-level) charge for having the response in a shorter time (0.5 ms). Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Abrams and include charging a user based on the amount of time the user requires for execution of their application as taught by Steele, because shorter response times requires more resources to be utilized than longer response times that do not require as many resources.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fadey S. Jabr whose telephone number is (571) 272-1516. The examiner can normally be reached on Mon. - Fri. 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on (571) 272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Fadey S Jabr
Examiner
Art Unit 3628


AS A. DIXON
BY EXAMINER

FSJ

Please address mail to be delivered by the United States Postal Service (USPS) as follows:

**Commissioner of Patents and Trademarks
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(571) 273-1516 [Informal/Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314